

ABSTRACT

A magnetic linear displacement sensor. In accordance with one embodiment, the displacement sensor includes a Hall transducer element having a sensor plate surface and at least one magnet having a lengthwise dimension along which said Hall element detects a magnetic field component orthogonal to the sensor plate surface during displacement sensing. The magnet includes first and second pole faces disposed on opposite lengthwise sides thereof and a polarization axis aligned orthogonally with respect to the lengthwise dimension. The first pole face opposes the Hall element and is characterized as having a non-planar surface contoured to generate a substantially linear orthogonal magnetic field component sensed by said Hall element during linear displacement sensing.